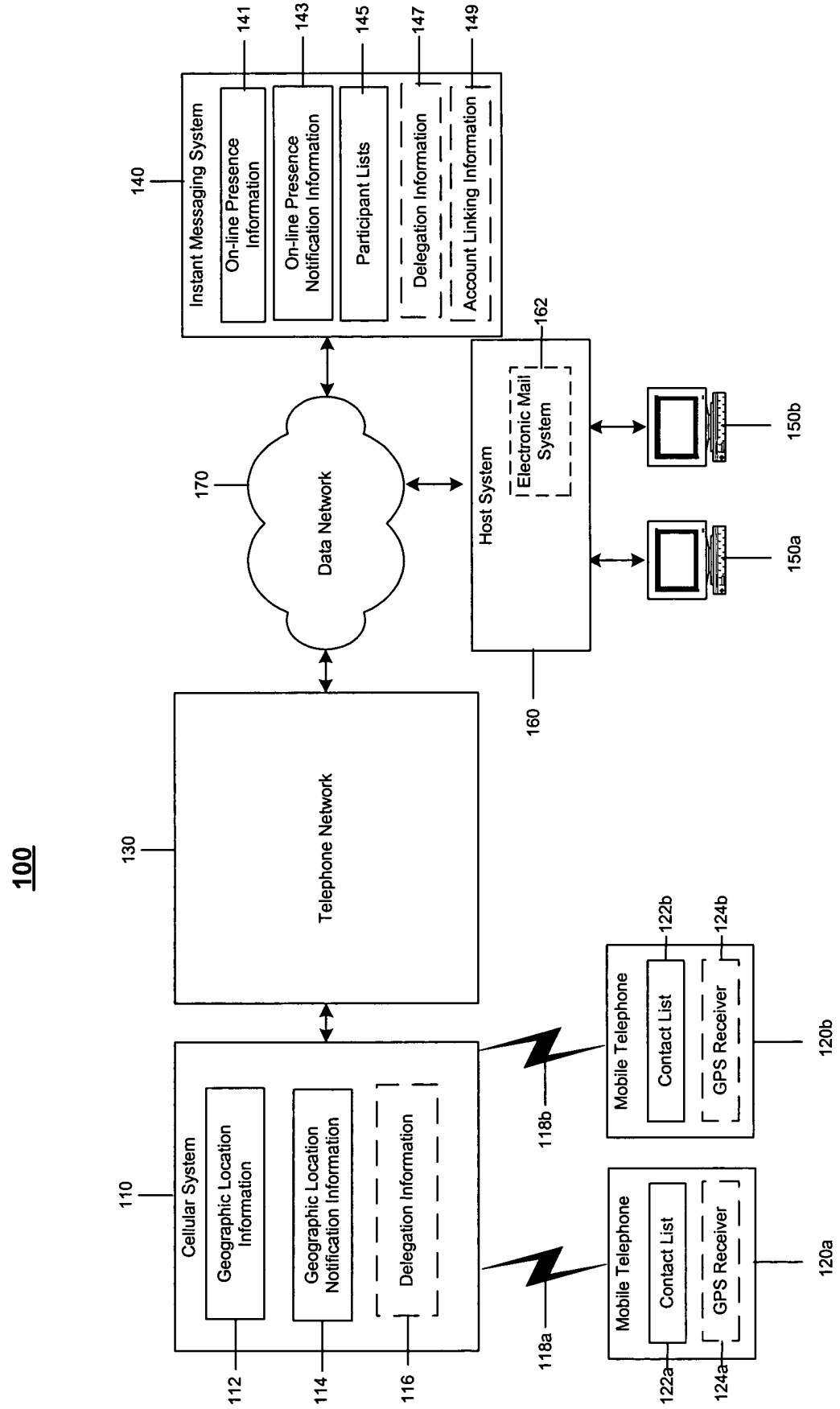
100
Instant Messaging System
On-line Presence Information
On-line Presence Notification Information
Participant Lists
Delegation Information
Account Linking Information
140
141
143
145
147
149
Data Network
170
Host System
Electronic Mail System
162
160
150b
150a
Telephone Network
130
Cellular System
Geographic Location Information
Geographic Location Notification Information
Delegation Information
110
112
114
116
118a
118b
Mobile Telephone
Contact List
GPS Receiver
120a
120b
122a
122b
124a
124b

FIG. 1

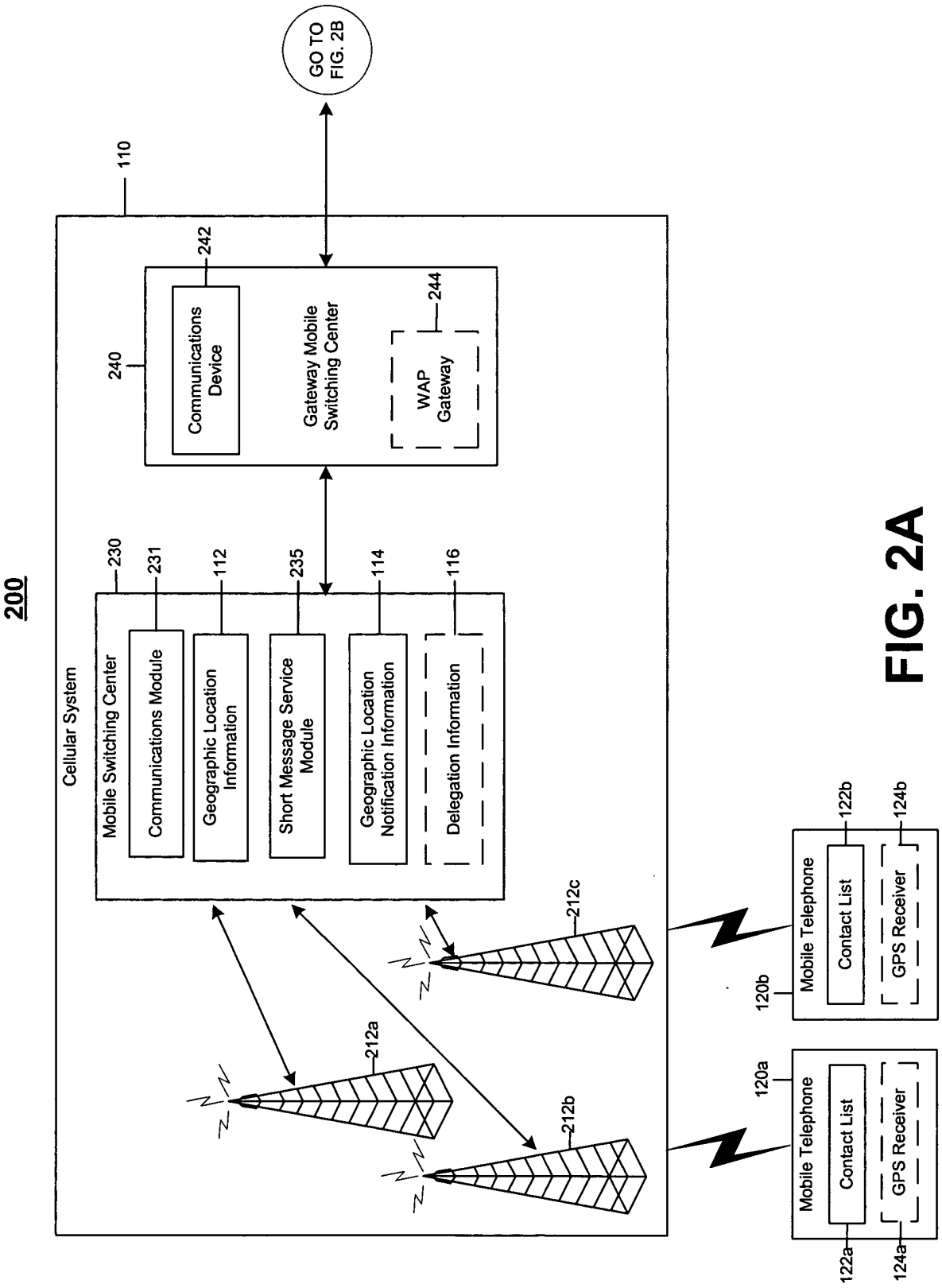
200
GO TO FIG. 2B
110
Cellular System
240
242
Communications Device
Gateway Mobile Switching Center
244
WAP Gateway
230
Mobile Switching Center
231
Communications Module
112
Geographic Location Information
235
Short Message Service Module
114
Geographic Location Notification Information
116
Delegation Information
212a
212b
212c
120a
Mobile Telephone
Contact List
GPS Receiver
122a
124a
120b
Mobile Telephone
Contact List
GPS Receiver
122b
124b

FIG. 2A

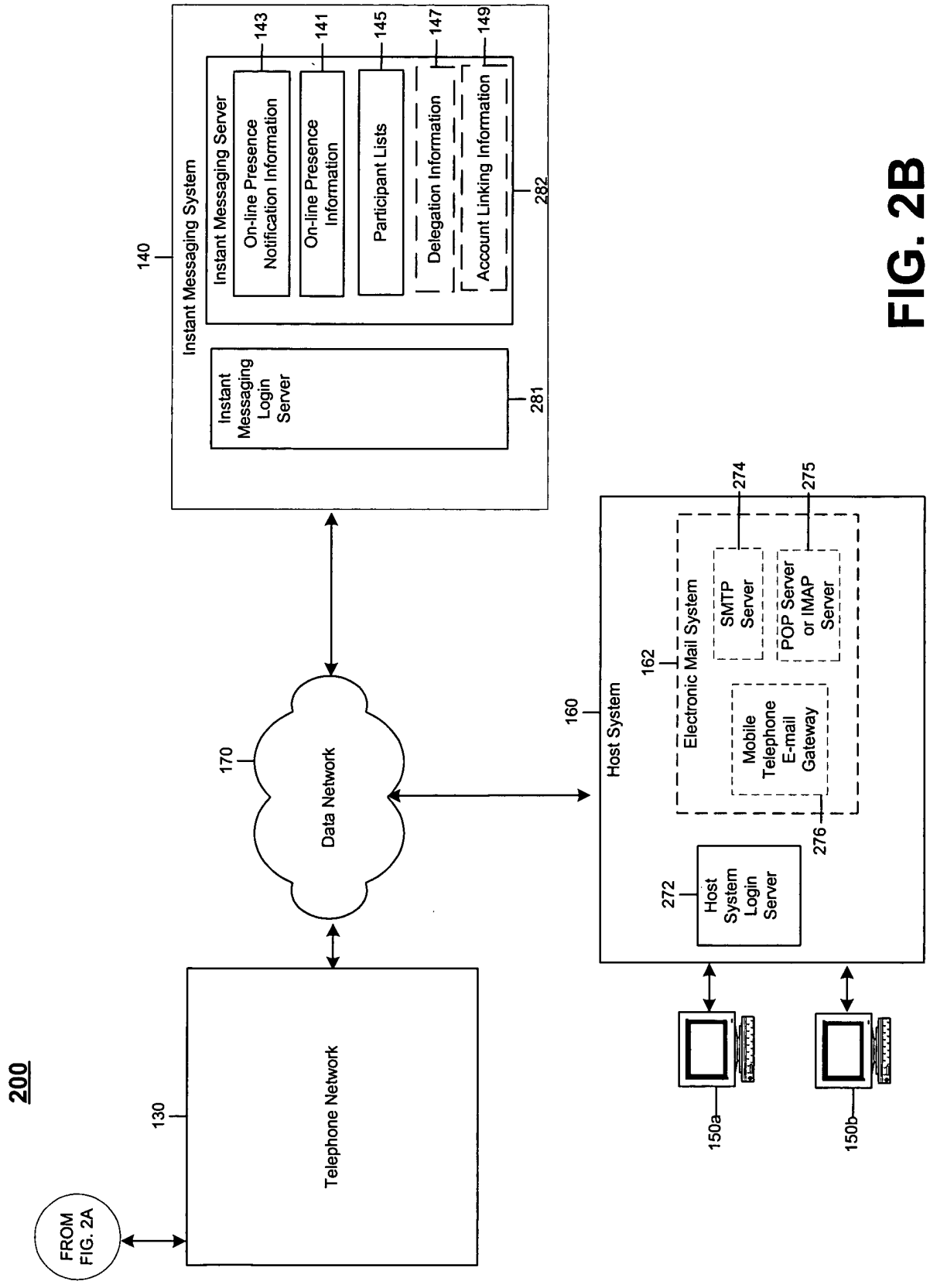
200
FROM FIG. 2A
Telephone Network
130
Data Network
170
Instant Messaging System
140
Instant Messaging Server
On-line Presence Notification Information
143
On-line Presence Information
141
Participant Lists
145
Delegation Information
147
Account Linking Information
149
282
Instant Messaging Login Server
281
Host System
160
Electronic Mail System
162
SMTP Server
274
POP Server or IMAP Server
275
Mobile Telephone E-mail Gateway
276
Host System Login Server
272
150a
150b

FIG. 2B

300

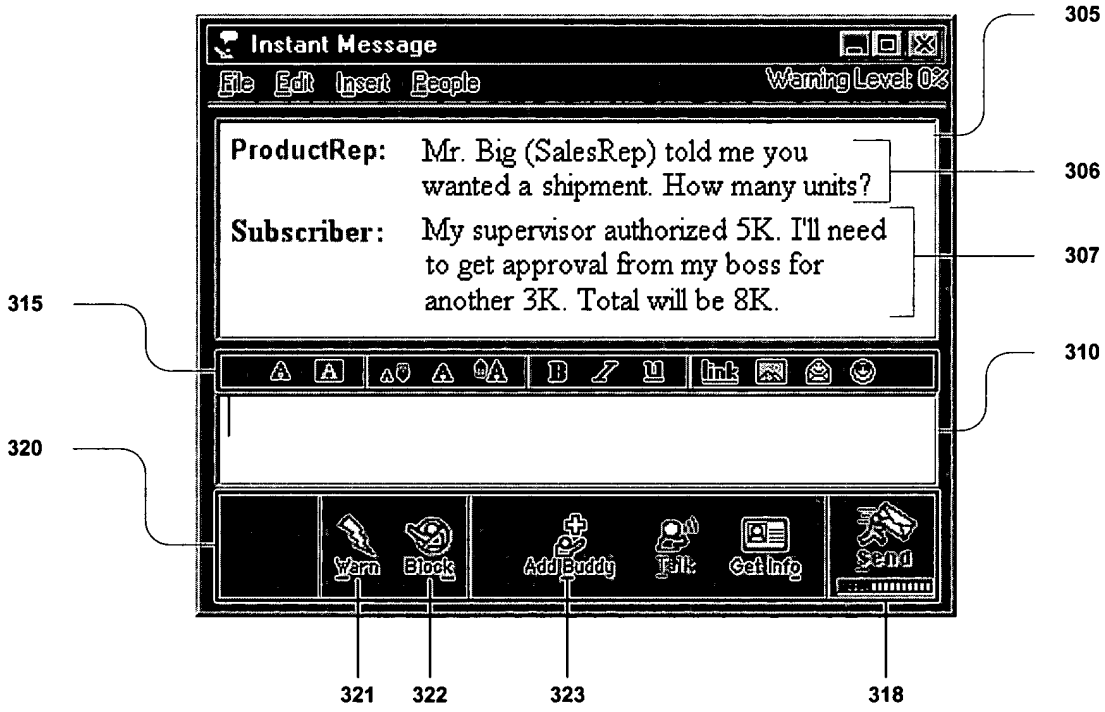
Instant Message
File Edit Insert People
Warning Level: 0%
ProductRep: Mr. Big (SalesRep) told me you wanted a shipment. How many units?
Subscriber: My supervisor authorized 5K. I'll need to get approval from my boss for another 3K. Total will be 8K.
Warn
Block
Add Buddy
Talk
Get Info
Send
305
306
307
310
315
320
321
322
323
318

FIG. 3

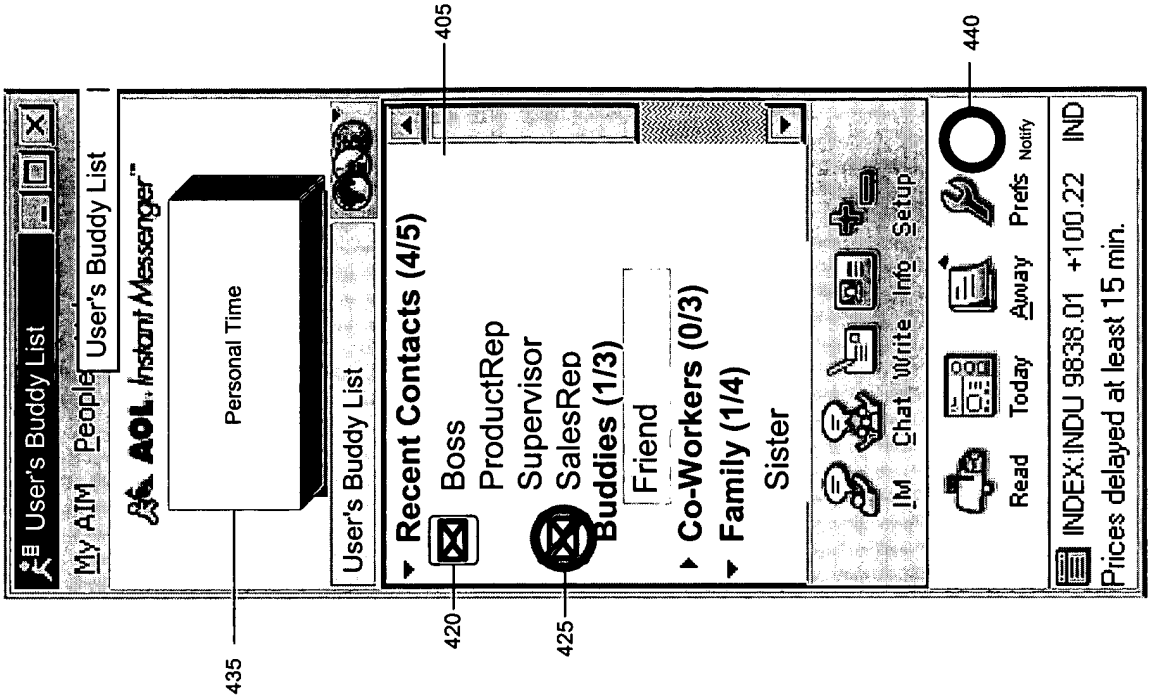
400B
User's Buddy List
My AIM
People
User's Buddy List
AOL Instant Messenger
Personal Time
User's Buddy List
Recent Contacts (4/5)
Boss
ProductRep
Supervisor
SalesRep
Buddies (1/3)
Friend
Co-Workers (0/3)
Family (1/4)
Sister
IM
Chat
Write
Info
Setup
Read
Today
Away
Prefs
Notify
INDEX:INDU 9838.01 +100.22 IND
Prices delayed at least 15 min.
405
440
435
420
425

FIG. 4B

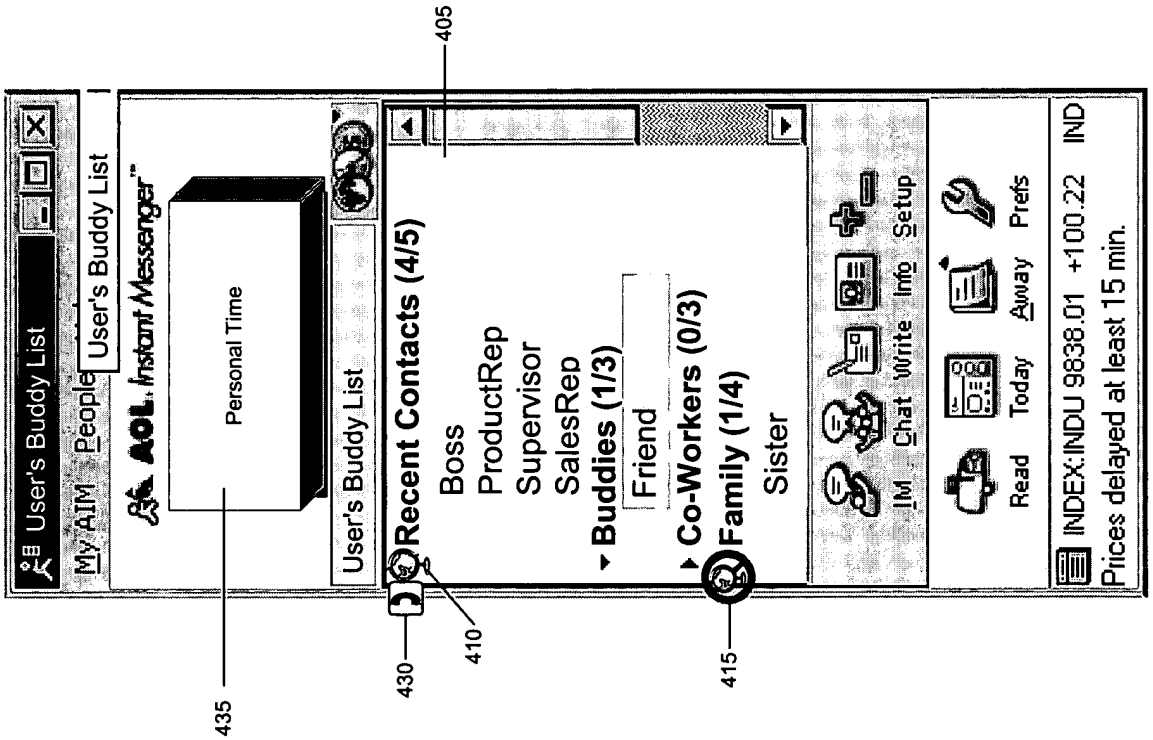
400A
User's Buddy List
My AIM
People
User's Buddy List
AOL Instant Messenger
Personal Time
User's Buddy List
Recent Contacts (4/5)
Boss
ProductRep
Supervisor
SalesRep
Buddies (1/3)
Friend
Co-Workers (0/3)
Family (1/4)
Sister
IM
Chat
Write
Info
Setup
Read
Today
Away
Prefs
INDEX:INDU 9838.01 +100.22 IND
Prices delayed at least 15 min.
405
435
430
410
415

FIG. 4A

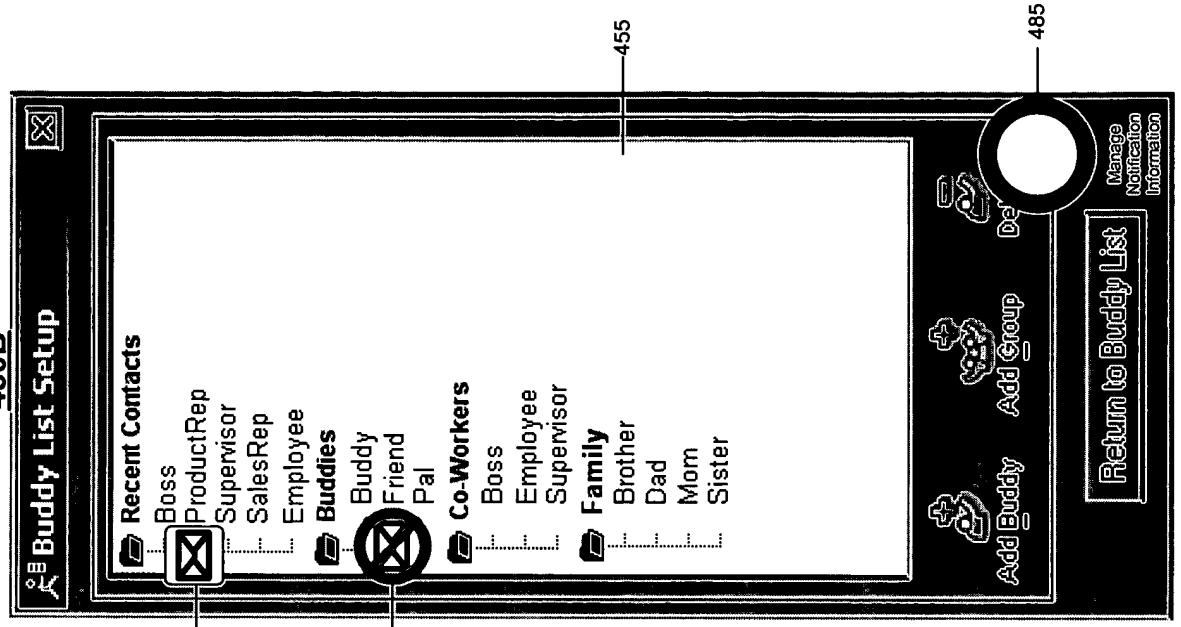
450B
Buddy List Setup
Recent Contacts
Boss
ProductRep
Supervisor
SalesRep
Employee
Buddies
Buddy
Friend
Pal
Co-Workers
Boss
Employee
Supervisor
Family
Brother
Dad
Mom
Sister
Add Buddy
Add Group
Del
Return to Buddy List
Manage Notification Information
455
485
470
475

FIG. 4D

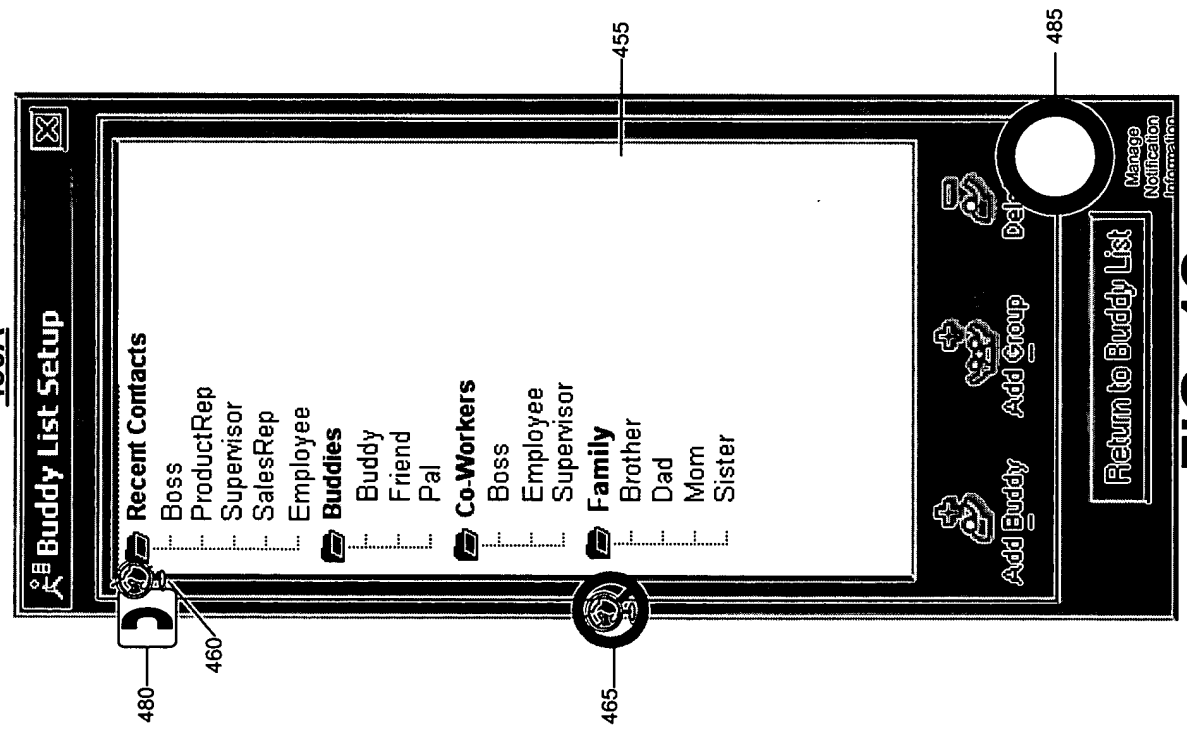
450A
Buddy List Setup
Recent Contacts
Boss
ProductRep
Supervisor
SalesRep
Employee
Buddies
Buddy
Friend
Pal
Co-Workers
Boss
Employee
Supervisor
Family
Brother
Dad
Mom
Sister
Add Buddy
Add Group
Del
Return to Buddy List
Manage Notification Information
455
485
480
460
465

FIG. 4C

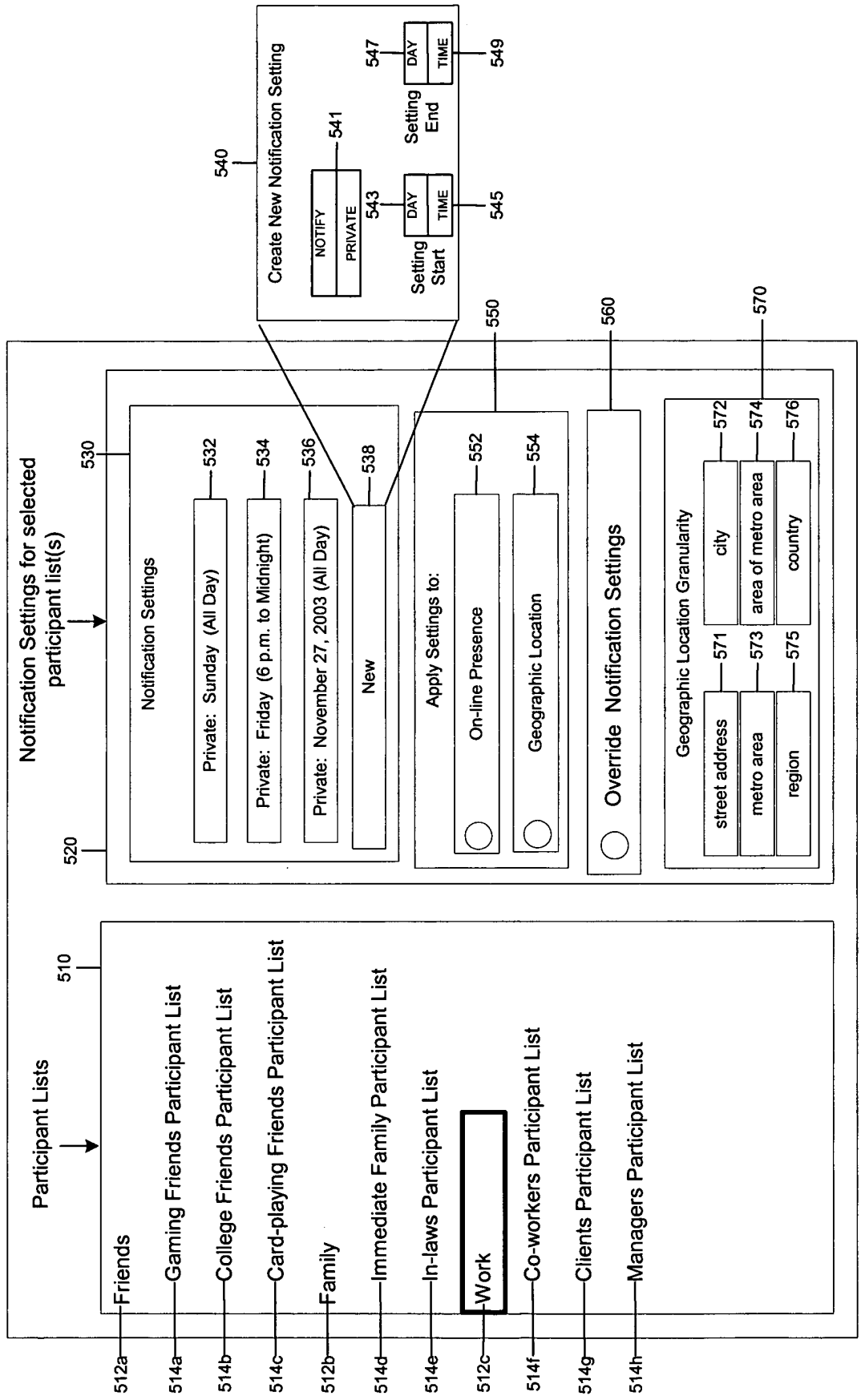
500
Participant Lists
510
Friends
Gaming Friends Participant List
College Friends Participant List
Card-playing Friends Participant List
Family
Immediate Family Participant List
In-laws Participant List
Work
Co-workers Participant List
Clients Participant List
Managers Participant List
512a
514a
514b
514c
512b
514d
514e
512c
514f
514g
514h
Notification Settings for selected participant list(s)
520
530
Notification Settings
Private: Sunday (All Day)
Private: Friday (6 p.m. to Midnight)
Private: November 27, 2003 (All Day)
New
532
534
536
538
Apply Settings to:
On-line Presence
Geographic Location
550
552
554
Override Notification Settings
560
Geographic Location Granularity
street address
metro area
region
571
573
575
city
area of metro area
country
572
574
576
570
Create New Notification Setting
540
NOTIFY
PRIVATE
541
543
Setting Start
DAY
TIME
545
Setting End
DAY
TIME
547
549

FIG. 5

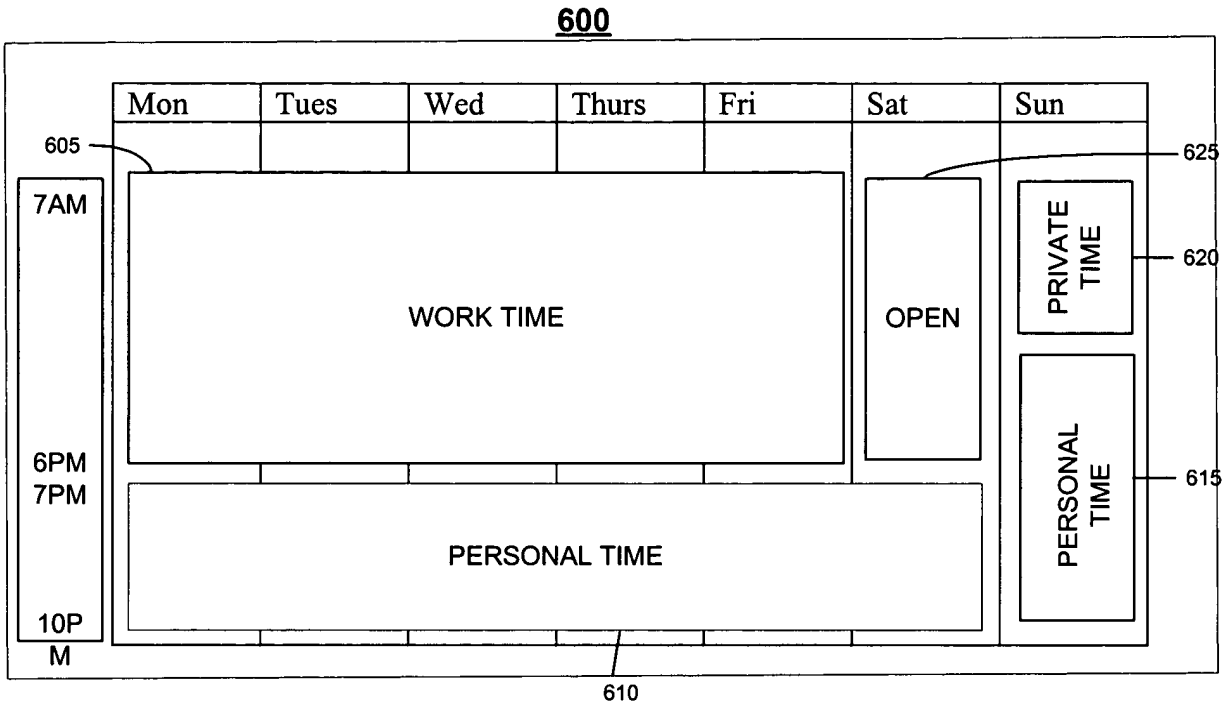
600
Mon
Tues
Wed
Thurs
Fri
Sat
Sun
605
625
7AM
WORK TIME
OPEN
PRIVATE TIME
620
6PM
7PM
PERSONAL TIME
PERSONAL TIME
615
10P
M
610

FIG. 6A

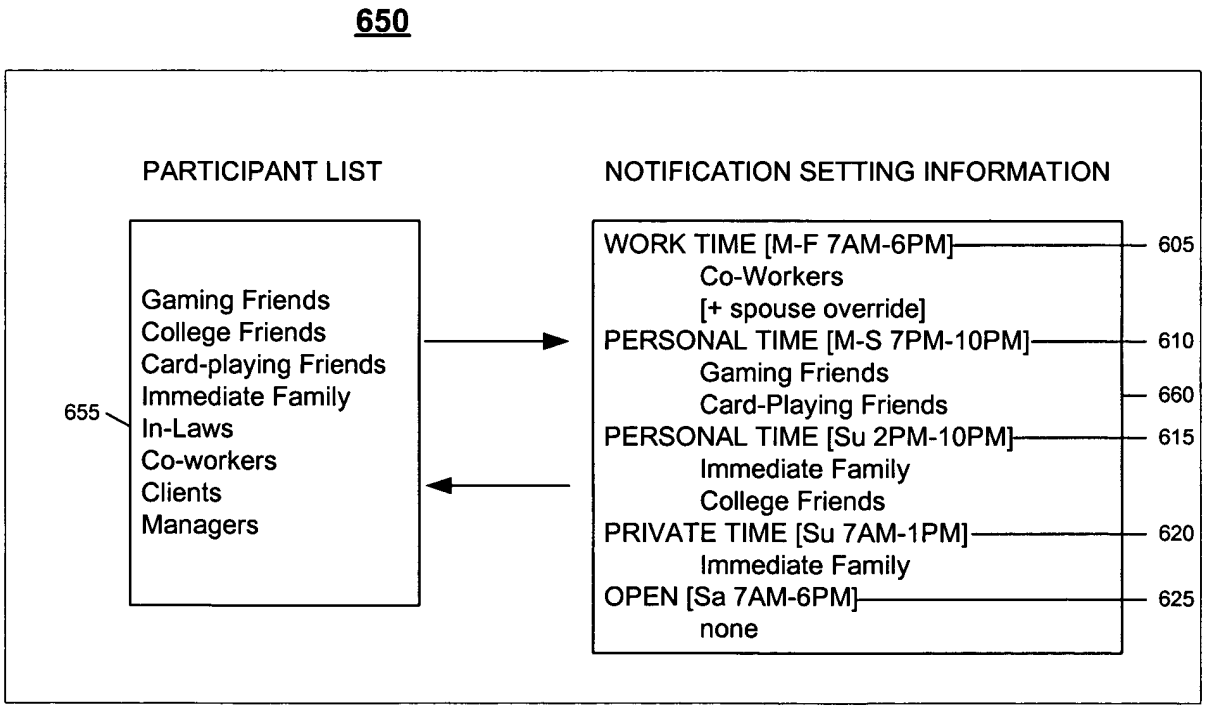
650
PARTICIPANT LIST
NOTIFICATION SETTING INFORMATION
Gaming Friends
College Friends
Card-playing Friends
Immediate Family
In-Laws
Co-workers
Clients
Managers
655
WORK TIME [M-F 7AM-6PM]
Co-Workers
[+ spouse override]
PERSONAL TIME [M-S 7PM-10PM]
Gaming Friends
Card-Playing Friends
PERSONAL TIME [Su 2PM-10PM]
Immediate Family
College Friends
PRIVATE TIME [Su 7AM-1PM]
Immediate Family
OPEN [Sa 7AM-6PM]
none
605
610
660
615
620
625

FIG. 6B

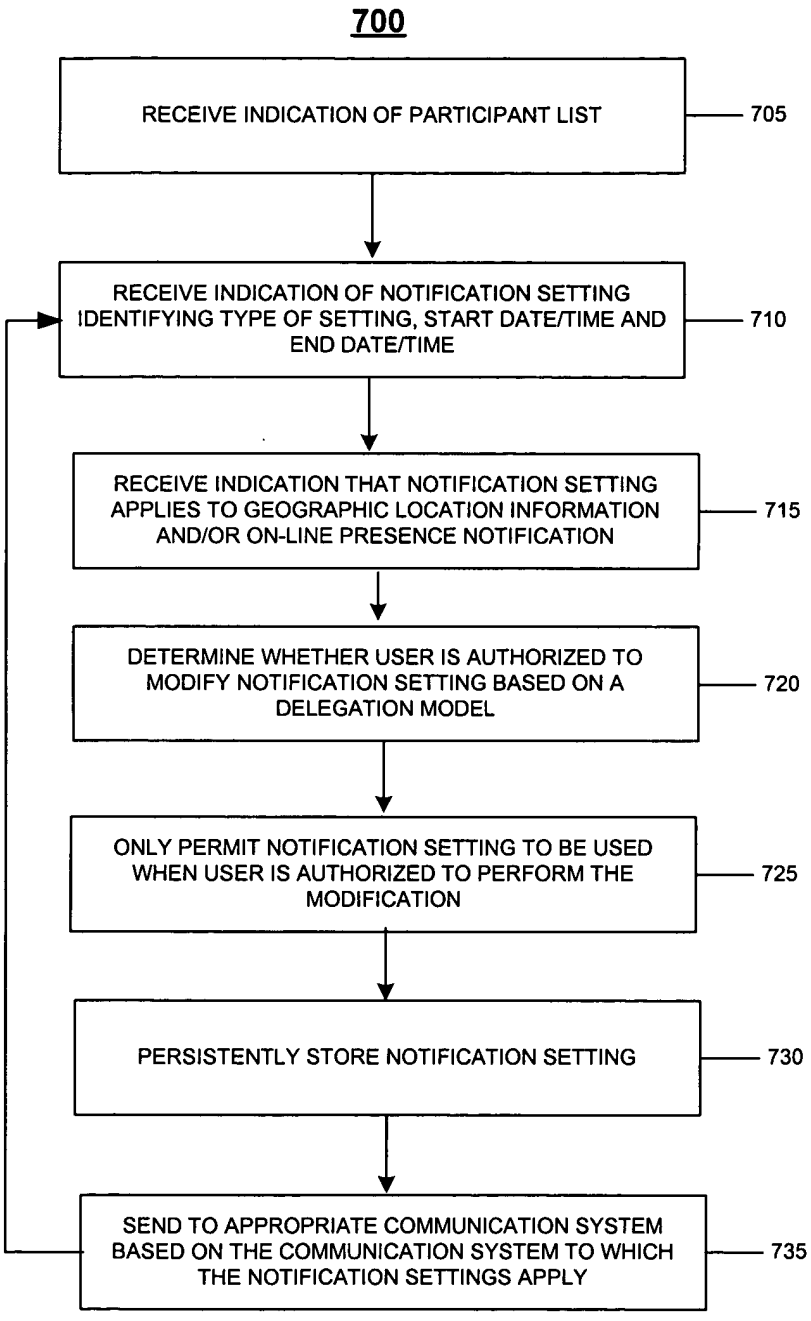
700
RECEIVE INDICATION OF PARTICIPANT LIST
705
RECEIVE INDICATION OF NOTIFICATION SETTING IDENTIFYING TYPE OF SETTING, START DATE/TIME AND END DATE/TIME
710
RECEIVE INDICATION THAT NOTIFICATION SETTING APPLIES TO GEOGRAPHIC LOCATION INFORMATION AND/OR ON-LINE PRESENCE NOTIFICATION
715
DETERMINE WHETHER USER IS AUTHORIZED TO MODIFY NOTIFICATION SETTING BASED ON A DELEGATION MODEL
720
ONLY PERMIT NOTIFICATION SETTING TO BE USED WHEN USER IS AUTHORIZED TO PERFORM THE MODIFICATION
725
PERSISTENTLY STORE NOTIFICATION SETTING
730
SEND TO APPROPRIATE COMMUNICATION SYSTEM BASED ON THE COMMUNICATION SYSTEM TO WHICH THE NOTIFICATION SETTINGS APPLY
735

FIG. 7

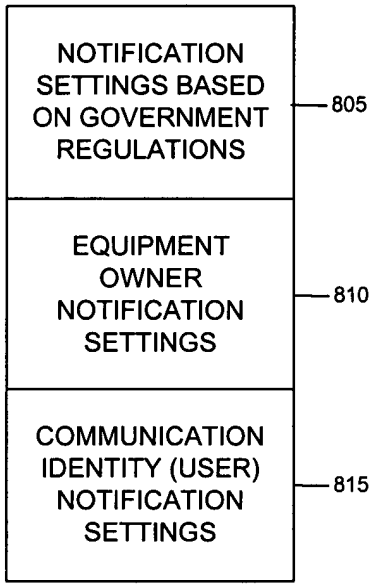
800
NOTIFICATION SETTINGS BASED ON GOVERNMENT REGULATIONS
805
EQUIPMENT OWNER NOTIFICATION SETTINGS
810
COMMUNICATION IDENTITY (USER) NOTIFICATION SETTINGS
815

FIG. 8

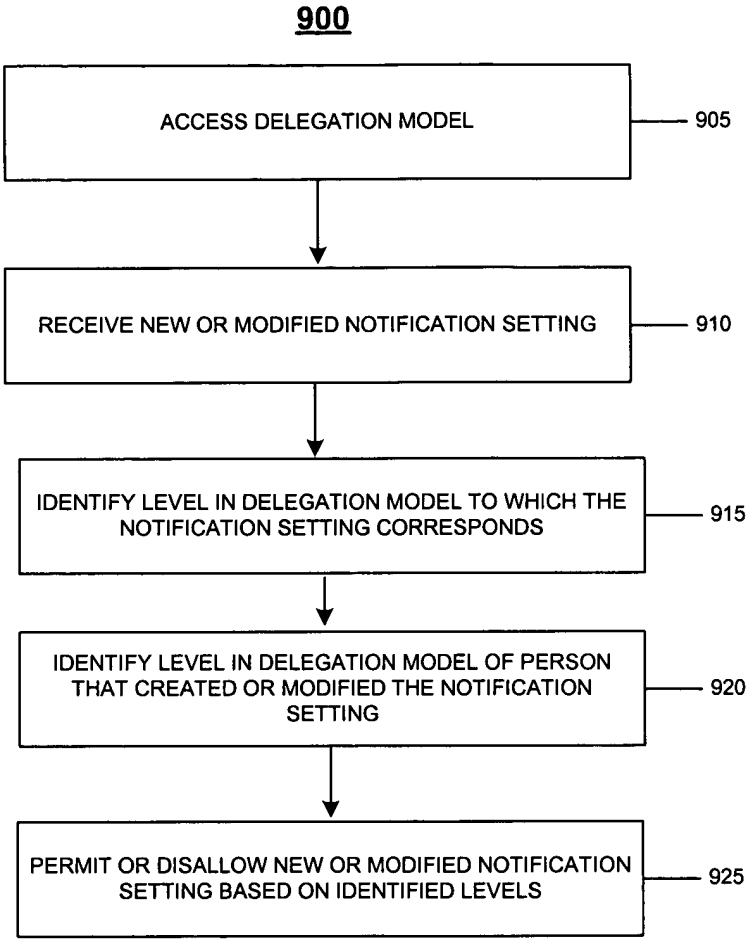
900
ACCESS DELEGATION MODEL
905
RECEIVE NEW OR MODIFIED NOTIFICATION SETTING
910
IDENTIFY LEVEL IN DELEGATION MODEL TO WHICH THE NOTIFICATION SETTING CORRESPONDS
915
IDENTIFY LEVEL IN DELEGATION MODEL OF PERSON THAT CREATED OR MODIFIED THE NOTIFICATION SETTING
920
PERMIT OR DISALLOW NEW OR MODIFIED NOTIFICATION SETTING BASED ON IDENTIFIED LEVELS
925

FIG. 9

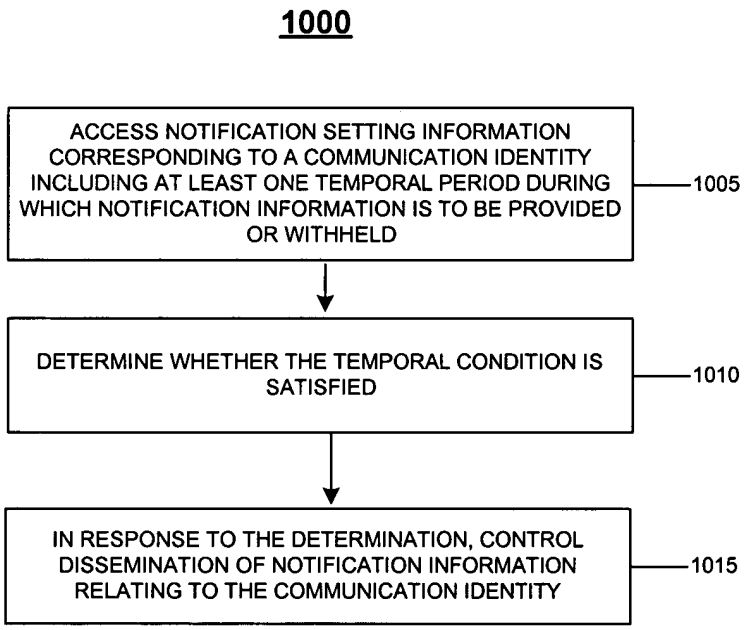
1000
ACCESS NOTIFICATION SETTING INFORMATION CORRESPONDING TO A COMMUNICATION IDENTITY INCLUDING AT LEAST ONE TEMPORAL PERIOD DURING WHICH NOTIFICATION INFORMATION IS TO BE PROVIDED OR WITHHELD
1005
DETERMINE WHETHER THE TEMPORAL CONDITION IS SATISFIED
1010
IN RESPONSE TO THE DETERMINATION, CONTROL DISSEMINATION OF NOTIFICATION INFORMATION RELATING TO THE COMMUNICATION IDENTITY
1015

FIG. 10

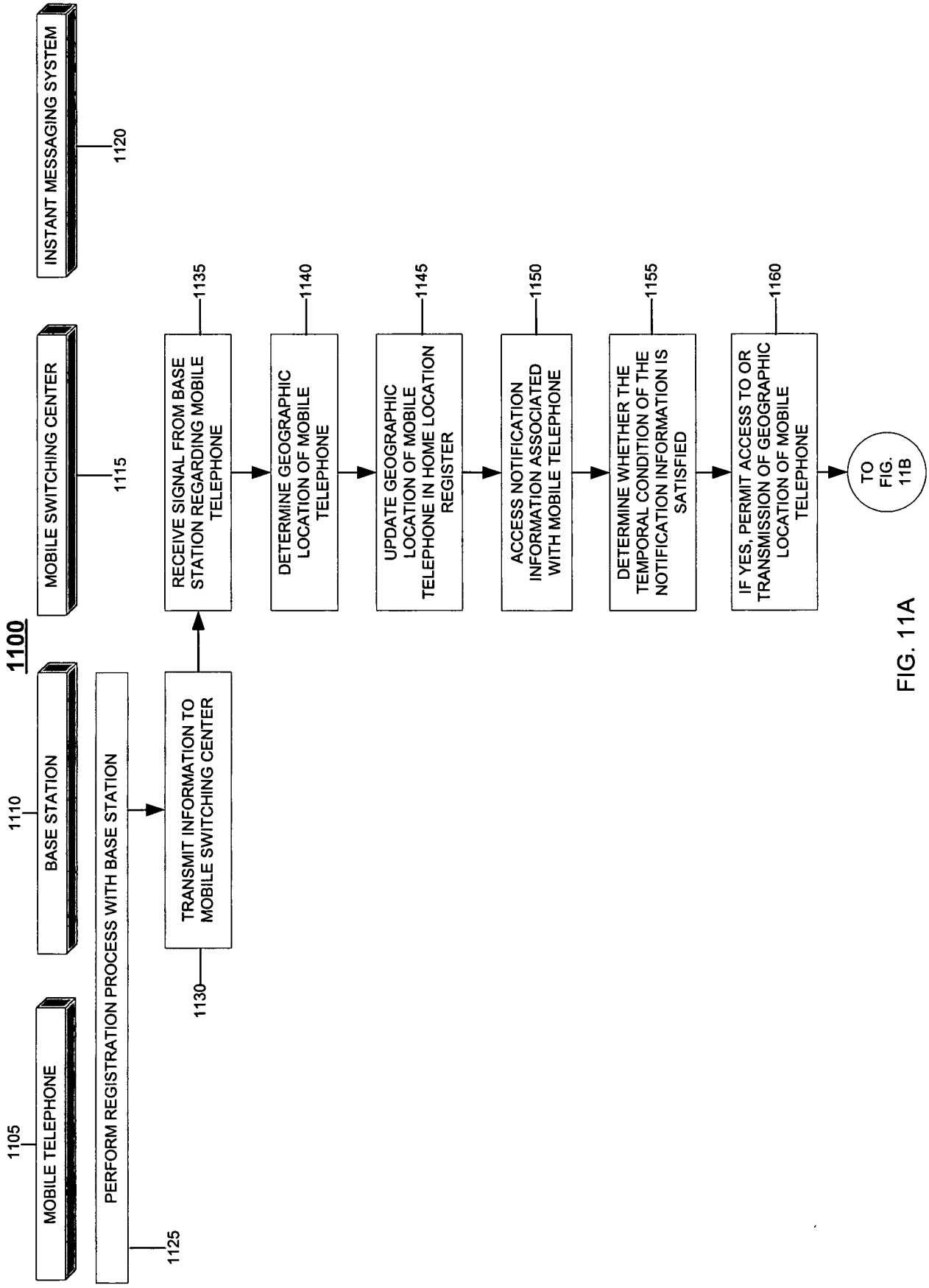
1100
MOBILE TELEPHONE
1105
BASE STATION
1110
MOBILE SWITCHING CENTER
1115
INSTANT MESSAGING SYSTEM
1120
PERFORM REGISTRATION PROCESS WITH BASE STATION
1125
TRANSMIT INFORMATION TO MOBILE SWITCHING CENTER
1130
RECEIVE SIGNAL FROM BASE STATION REGARDING MOBILE TELEPHONE
1135
DETERMINE GEOGRAPHIC LOCATION OF MOBILE TELEPHONE
1140
UPDATE GEOGRAPHIC LOCATION OF MOBILE TELEPHONE IN HOME LOCATION REGISTER
1145
ACCESS NOTIFICATION INFORMATION ASSOCIATED WITH MOBILE TELEPHONE
1150
DETERMINE WHETHER THE TEMPORAL CONDITION OF THE NOTIFICATION INFORMATION IS SATISFIED
1155
IF YES, PERMIT ACCESS TO OR TRANSMISSION OF GEOGRAPHIC LOCATION OF MOBILE TELEPHONE
1160
TO FIG. 11B

FIG. 11A

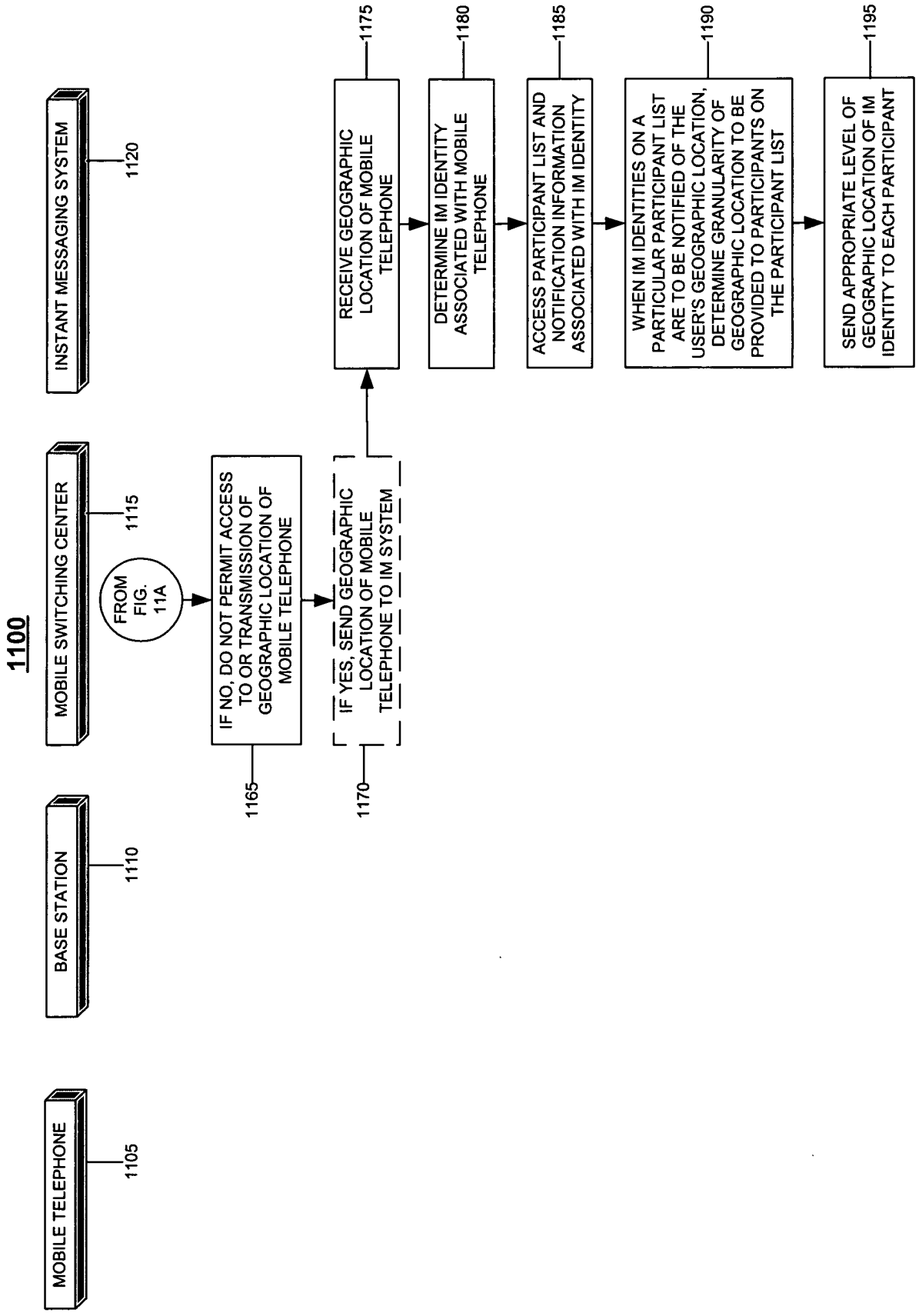
1100
MOBILE TELEPHONE
1105
BASE STATION
1110
MOBILE SWITCHING CENTER
1115
INSTANT MESSAGING SYSTEM
1120
FROM FIG. 11A
IF NO, DO NOT PERMIT ACCESS TO OR TRANSMISSION OF GEOGRAPHIC LOCATION OF MOBILE TELEPHONE
1165
IF YES, SEND GEOGRAPHIC LOCATION OF MOBILE TELEPHONE TO IM SYSTEM
1170
RECEIVE GEOGRAPHIC LOCATION OF MOBILE TELEPHONE
1175
DETERMINE IM IDENTITY ASSOCIATED WITH MOBILE TELEPHONE
1180
ACCESS PARTICIPANT LIST AND NOTIFICATION INFORMATION ASSOCIATED WITH IM IDENTITY
1185
WHEN IM IDENTITIES ON A PARTICULAR PARTICIPANT LIST ARE TO BE NOTIFIED OF THE USER'S GEOGRAPHIC LOCATION, DETERMINE GRANULARITY OF GEOGRAPHIC LOCATION TO BE PROVIDED TO PARTICIPANTS ON THE PARTICIPANT LIST
1190
SEND APPROPRIATE LEVEL OF GEOGRAPHIC LOCATION OF IM IDENTITY TO EACH PARTICIPANT
1195

FIG. 11B

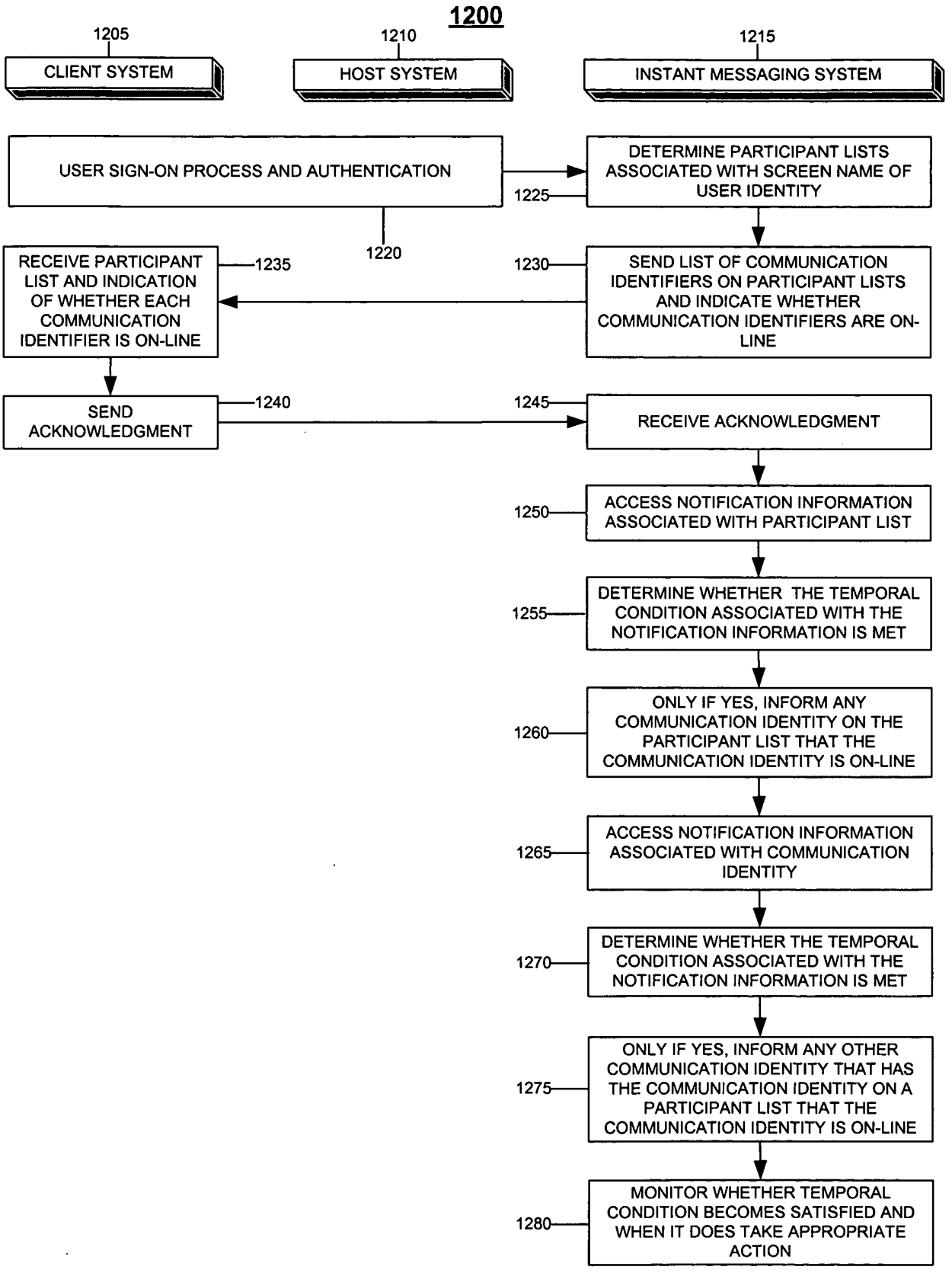
1200
1205
CLIENT SYSTEM
1210
HOST SYSTEM
1215
INSTANT MESSAGING SYSTEM
USER SIGN-ON PROCESS AND AUTHENTICATION
1220
DETERMINE PARTICIPANT LISTS ASSOCIATED WITH SCREEN NAME OF USER IDENTITY
1225
SEND LIST OF COMMUNICATION IDENTIFIERS ON PARTICIPANT LISTS AND INDICATE WHETHER COMMUNICATION IDENTIFIERS ARE ON-LINE
1230
RECEIVE PARTICIPANT LIST AND INDICATION OF WHETHER EACH COMMUNICATION IDENTIFIER IS ON-LINE
1235
SEND ACKNOWLEDGMENT
1240
RECEIVE ACKNOWLEDGMENT
1245
ACCESS NOTIFICATION INFORMATION ASSOCIATED WITH PARTICIPANT LIST
1250
DETERMINE WHETHER THE TEMPORAL CONDITION ASSOCIATED WITH THE NOTIFICATION INFORMATION IS MET
1255
ONLY IF YES, INFORM ANY COMMUNICATION IDENTITY ON THE PARTICIPANT LIST THAT THE COMMUNICATION IDENTITY IS ON-LINE
1260
ACCESS NOTIFICATION INFORMATION ASSOCIATED WITH COMMUNICATION IDENTITY
1265
DETERMINE WHETHER THE TEMPORAL CONDITION ASSOCIATED WITH THE NOTIFICATION INFORMATION IS MET
1270
ONLY IF YES, INFORM ANY OTHER COMMUNICATION IDENTITY THAT HAS THE COMMUNICATION IDENTITY ON A PARTICIPANT LIST THAT THE COMMUNICATION IDENTITY IS ON-LINE
1275
MONITOR WHETHER TEMPORAL CONDITION BECOMES SATISFIED AND WHEN IT DOES TAKE APPROPRIATE ACTION
1280

FIG. 12

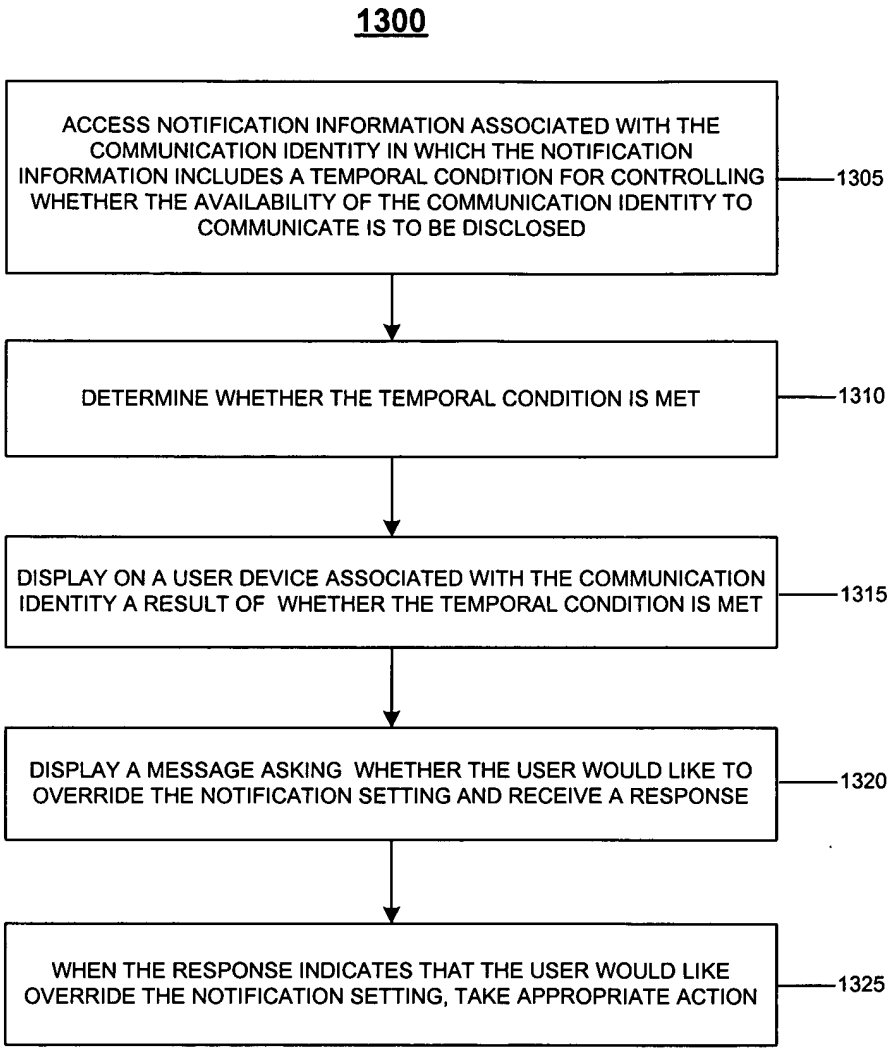
1300
ACCESS NOTIFICATION INFORMATION ASSOCIATED WITH THE COMMUNICATION IDENTITY IN WHICH THE NOTIFICATION INFORMATION INCLUDES A TEMPORAL CONDITION FOR CONTROLLING WHETHER THE AVAILABILITY OF THE COMMUNICATION IDENTITY TO COMMUNICATE IS TO BE DISCLOSED
1305
DETERMINE WHETHER THE TEMPORAL CONDITION IS MET
1310
DISPLAY ON A USER DEVICE ASSOCIATED WITH THE COMMUNICATION IDENTITY A RESULT OF WHETHER THE TEMPORAL CONDITION IS MET
1315
DISPLAY A MESSAGE ASKING WHETHER THE USER WOULD LIKE TO OVERRIDE THE NOTIFICATION SETTING AND RECEIVE A RESPONSE
1320
WHEN THE RESPONSE INDICATES THAT THE USER WOULD LIKE OVERRIDE THE NOTIFICATION SETTING, TAKE APPROPRIATE ACTION
1325

FIG. 13